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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,540	07/22/2003	William S. Kennedy	015290-661	4866

7590 07/15/2008

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EXAMINER	
ZERVIGON, RUDY	
ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
07/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/623,540	KENNEDY ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,8-11,13,14,16-21 and 29-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8-11,13,14,16-21 and 29-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-5, 8-11, 13, 14, 16-21, 29-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh; Susumu (US 6207006 B1) and Hao; Fangli et al. (US 6123775 A) in view of Nishimura, Akira (JP 04316709 A). Katoh teaches a component of a plasma (column 1; lines 35-44) processing apparatus (Figure 6, 9,11; column 1; line 20 - column 2, line 15), comprising: a backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) bonded to a showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46), the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) including a plurality of through apertures (137+138; Figure 9; column 6; lines 52-64) having a first portion (138; Figure 9; column 6; line 52 - column 7; line 55) and a second portion (137; Figure 9; column 6; line 52 - column 7; line 55) wider than the first portion (138; Figure 9; column 6; line 52 - column 7; line 55); and a plurality of first fastener members (piece set in 137; Figure 9; not numbered) each mounted in an aperture (137+138; Figure 9; column 6; lines 52-64) of the first backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55), each first fastener member (piece set in 137; Figure 9; not numbered) including a *circular shaped head (flanged portion of piece set in 137; Figure 9)* configured (by *bellows* 141) to prevent rotation of the first fastener members (piece set in 137; Figure 9; not numbered) relative to the first backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55), the head (flanged portion of piece set in 137; Figure 9) having a bearing surface (lower surface) bonded to a surface that at least partially defines the

second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of the aperture (137+138; Figure 9; column 6; lines 52-64) – claim 1. Applicant's claim requirement of "backing plate *bonded* to a showerhead electrode" and "…bearing surface bonded to a surface…" are product-by-process claim limitations. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

Katoh further teaches:

i. The component of Claim 1, further comprising: a temperature-controlled top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134) on the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55), adjacent the first portion (138; Figure 9; column 6; line 52 - column 7; line 55) of the apertures (accomodating 134; Figure 9) of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55), and including a plurality of through openings (accomodating 134; Figure 9) each aligned with a respective aperture (137+138; Figure 9; column 6; lines 52-64) in the first backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55); and a plurality of second fastener members (134; Figure 9; column 6; lines 52-64) each engaged with a respective first fastener member (piece set in 137; Figure 9; not numbered) to secure the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) to the top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134), as claimed by claim 4

ii. The component of Claim 1, wherein the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) comprises an inner electrode (117; Figure 6, 9; column 7; line 30) and an outer electrode (143; Figure 6, 9; column 7; line 30), and the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) is secured to the inner electrode (117; Figure 6, 9; column 7; line 30) and a backing ring (20; Figure 9) is secured to the outer electrode (143; Figure 6, 9; column 7; line 30) – claim 8

iii. A component of a plasma (column 1; lines 35-44) processing apparatus (Figure 6, 9,11; column 1; line 20 - column 2, line 15), comprising: a showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) including an attachment surface (116/143 interface; Figure 9) and an exposed surface adapted to be exposed to an interior of a plasma (column 1; lines 35-44) processing chamber ("B" column 1; lines 30-46); a backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) including a first surface (bottom of 116; Figure 9) spaced from a second surface (top of 116; Figure 9), the second surface (top of 116; Figure 9) contacting and being bonded to the attachment surface (116/143 interface; Figure 9) of the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46), the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) including axially extending apertures (accomodating 134; Figure 9) extending between the first surface (bottom of 116; Figure 9) and the second surface (top of 116; Figure 9), each of the apertures (accomodating 134; Figure 9) including a first portion (138; Figure 9; column 6; line 52 - column 7; line 55) opening in the first surface (bottom of 116; Figure 9) and a second portion (137; Figure 9; column 6; line 52 - column 7; line 55) opening in the second surface (top of

116; Figure 9), the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) being wider in a transverse direction than the first portion (138; Figure 9; column 6; line 52 - column 7; line 55) – claim 10. Applicant's claim requirement of "the first surface contacting and being *bonded* to the attachment surface of the showerhead electrode" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

iv. The component of Claim 10, further comprising: a temperature-controlled top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134) adjacent the first surface (bottom of 116; Figure 9) of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) and including through openings (accomodating 134; Figure 9) aligned with the apertures (accomodating 134; Figure 9) in the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55); and fastener members (136; Figure 9) located in the openings (accomodating 134; Figure 9) – claim 11

v. The component of Claim 10, wherein the second portions (137; Figure 9; column 6; line 52 - column 7; line 55) of the apertures (accomodating 134; Figure 9) comprise at least one load-bearing surface (lower surface) extending in the transverse direction – claim 14

vi. A showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) assembly for a plasma (column 1; lines 35-44) processing apparatus (Figure 6,

9,11; column 1; line 20 - column 2, line 15), comprising: a showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) having gas injection openings (117a; Figure 9) and a plasma (column 1; lines 35-44) exposed surface; a backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) secured to the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46), the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) including a plurality of through apertures (137+138; Figure 9; column 6; lines 52-64) each having a first portion (138; Figure 9; column 6; line 52 - column 7; line 55) and a second portion (137; Figure 9; column 6; line 52 - column 7; line 55) wider than the first portion (138; Figure 9; column 6; line 52 - column 7; line 55); a top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134) including a plurality of through openings (accomodating 134; Figure 9) each of which is aligned with a respective aperture (137+138; Figure 9; column 6; lines 52-64) in the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) - claim 17

vii. The showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) assembly of Claim 17, wherein the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) comprises an inner member (117; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) and an outer member (143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46), and the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) comprises a backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) secured to the inner member (117; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) and a backing ring (20; Figure 9) secured

to the outer member (143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46), as claimed by claim 20

viii. The showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) assembly of Claim 17, wherein the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) comprises a first surface (bottom of 116; Figure 9) and a second surface (top of 116; Figure 9) opposite the first surface (bottom of 116; Figure 9), the first surface (bottom of 116; Figure 9) is secured to the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) and the second surface (top of 116; Figure 9) is secured to the top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134), as claimed by claim 30

ix. The component of Claim 31, wherein the surface (lower surface) that at least partially defines the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of the aperture (137+138; Figure 9; column 6; lines 52-64) is a second bearing surface (lower surface) bonded with an elastomer to the bearing surface (lower surface) of each of the first fastener members (piece set in 137; Figure 9; not numbered), as claimed by claim 32. Applicant's claim requirement of "is a second bearing surface *bonded with an elastomer* to the bearing surface" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

x. The component of Claim 1, wherein: the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) includes a bottom surface and a top surface, the top surface is adapted to contact a temperature-controlled top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134); and the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) includes an exposed bottom surface and a top surface, the top surface of the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) contacts (116/143 interface) and is bonded to the bottom surface of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) with a thermally and electrically conductive bonding material, as claimed by claim 33. Applicant's claim requirement of "the top surface of the showerhead electrode contacts *and is bonded to the bottom surface* of the backing plate" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xi. The component of Claim 10, wherein: the second surface (top of 116; Figure 9) of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) is bonded to the attachment surface (116/143 interface; Figure 9) of the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) with a thermally and electrically conductive bonding material; and the first surface (bottom of 116; Figure 9)

of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) contacts a temperature-controlled top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134), as claimed by claim 36. Applicant's claim requirement of "the backing plate *is bonded to the attachment surface* of the showerhead electrode *with a thermally and electrically conductive bonding material*" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xii. The component of Claim 17, wherein the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) includes a first surface (bottom of 116; Figure 9) and a second surface (top of 116; Figure 9) opposite the first surface (bottom of 116; Figure 9), the first surface (bottom of 116; Figure 9) contacts (116/143 interface) and is bonded with an elastomer to a surface of the showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) opposite the plasma (column 1; lines 35-44) exposed surface, and the second surface (top of 116; Figure 9) is adapted to contact a temperature-controlled top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134), as claimed by claim 39. Applicant's claim requirement of "and *is bonded with an elastomer*" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to

applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xiii. A component of a plasma (column 1; lines 35-44) processing apparatus (Figure 6, 9,11; column 1; line 20 - column 2, line 15), comprising: an electrode plate (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) of an electrically and thermally conductive material, the electrode plate (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) including a top surface and an exposed bottom surface adapted to be exposed to an interior of a plasma (column 1; lines 35-44) processing chamber ("B" column 1; lines 30-46); a backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) of graphite material, the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) including a bottom surface and a top surface spaced from the bottom surface, the bottom surface of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) contacting (116/143 interface) and bonded to the top surface of the electrode plate (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46), the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) including axially extending apertures (accomodating 134; Figure 9) extending between the top surface and the bottom surface thereof, each of the apertures (accomodating 134; Figure 9) including a second portion (137; Figure 9; column 6; line 52 - column 7; line 55) opening in the bottom surface and a first portion opening in the top surface of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) – claim 40. Applicant's claim requirement of "backing plate *bonded* to a showerhead electrode" and "…and bonded to

the top surface of the electrode plate…" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xiv. a plurality of fastener members (piece set in 137; Figure 9; not numbered) each mounted in an aperture (137+138; Figure 9; column 6; lines 52-64) of the backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55), each fastener member (piece set in 137; Figure 9; not numbered) including a head (flanged portion of piece set in 137; Figure 9) configured to prevent rotation of the fastener member (piece set in 137; Figure 9; not numbered) in the aperture (137+138; Figure 9; column 6; lines 52-64) and having a bearing surface (lower surface) bonded to a surface that at least partially defines the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of the aperture (137+138; Figure 9; column 6; lines 52-64) – claim 40. Applicant's claim requirement of "…contacting and *bonded* …" and "…bearing surface bonded to a surface…" are product-by-process claim limitations. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

Katoh does not teach:

i. a *graphite* backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) – claim 1, 8, 17, 33, 39

ii. a *silicon* showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) – claim 1, 8, 17, 20, and 30

iii. a *non-circular* shaped head (flanged portion of piece set in 137; Figure 9) – claim 1

iv. The component of Claim 1, wherein the first fastener members (piece set in 137; Figure 9; not numbered) are T-nuts having a T-shape and internal threads, as claimed by claim 2

v. The component of Claim 1, wherein the surface (lower surface) that at least partially defines the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of the aperture (137+138; Figure 9; column 6; lines 52-64) is a second bearing surface (lower surface) and the bearing surface (lower surface) of each of the first fastener members (piece set in 137; Figure 9; not numbered) is bonded with an elastomer to the second bearing surface (lower surface), as claimed by claim 3. Applicant's claim requirement of "each of the first fastener members is *bonded* with an elastomer to the second bearing surface" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

vi. The component of Claim 1, wherein each of the first fastener members (piece set in 137; Figure 9; not numbered) comprises a rectangular shaped head (flanged portion of piece set in 137; Figure 9), as claimed by claim 5

vii. The component of Claim 4, wherein (i) each of the first fastener members (piece set in 137; Figure 9; not numbered) comprises internal threads, and each of the second fastener members (134; Figure 9; column 6; lines 52-64) comprises external threads engaged with the internal threads of a respective first fastener member (piece set in 137; Figure 9; not numbered), or (ii) each of the first fastener members (piece set in 137; Figure 9; not numbered) comprises external threads, and each of the second fastener members (134; Figure 9; column 6; lines 52-64) comprises internal threads engaged with the external threads of a respective first fastener member (piece set in 137; Figure 9; not numbered), as claimed by claim 9

viii. T-nuts having a T-shape, the second portions (137; Figure 9; column 6; line 52 - column 7; line 55) and the T-nuts having matching shapes which prevents rotation of the T-nuts located in the second portions (137; Figure 9; column 6; line 52 - column 7; line 55) of the apertures (accomodating 134; Figure 9) – claim 10

ix. the fastener members (136; Figure 9) being detachably engaged with the T-nuts such that the top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134) is detachable from the first backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55) – claim 11

x. The component of Claim 11, wherein the fastener members (136; Figure 9) include external threads, as claimed by claim 13

xi. the T-nuts comprise at least one surface bonded to the load-bearing surface (lower surface – claim 14. Applicant's claim requirement of "at least one surface bonded to the load-bearing surface" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xii. The component of Claim 11, wherein the first portions (138; Figure 9; column 6; line 52 - column 7; line 55) of the apertures (accomodating 134; Figure 9) are round holes having diameters larger than diameters of openings in the top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134), as claimed by claim 16

xiii. a plurality of T-nuts having a T-shape, each T-nut being mounted in a respective aperture (137+138; Figure 9; column 6; lines 52-64) of the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55), each T-nut including a bearing surface bonded to a surface at least partially defining the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of the apertures (accomodating 134; Figure 9); and a second fastener member (134; Figure 9; column 6; lines 52-64) engaged with each T-nut to secure the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) to the top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134) – claim 17. Applicant's claim requirement of "…bearing surface bonded to a surface…" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to

show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xiv. The showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) assembly of Claim 17, wherein the head of each of the T-nuts comprises a bearing surface adhesively bonded to the bearing surface of the aperture (137+138; Figure 9; column 6; lines 52-64), as claimed by claim 18. Applicant's claim requirement of "a bearing surface *adhesively bonded* to the bearing surface" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xv. The showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) assembly of Claim 17, wherein the T-nuts and second portions (137; Figure 9; column 6; line 52 - column 7; line 55) having matching shapes which prevents rotation of the T-nuts second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of each aperture (137+138; Figure 9; column 6; lines 52-64) is configured to prevent rotation of

the T-nut relative to the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55), as claimed by claim 19

xvi. The showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) assembly of Claim 17, wherein (i) each of the T-nuts comprises internal threads, and each of the second fastener members (134; Figure 9; column 6; lines 52-64) comprises external threads engaged with the internal threads of a respective T-nut, as claimed by claim 21

xvii. The showerhead electrode (117+143; Figure 6, 9; column 7; line 30; "C" column 1; lines 30-46) assembly of Claim 17, wherein the top plate (133; Figure 6, 9; column 5; lines 40-58 via conduction from 134) is on the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) , adjacent the first portion (138; Figure 9; column 6; line 52 - column 7; line 55) of the apertures (accomodating 134; Figure 9) of the backing member (116; Figure 6, 9; column 6; line 52 - column 7; line 55) , and temperature-controlled, as claimed by claim 29

xviii. The component of Claim 1, wherein each first fastener member (piece set in 137; Figure 9; not numbered) includes a cylindrical shaped shaft extending axially from the bearing surface (lower surface) of the head (flanged portion of piece set in 137; Figure 9) *and received in a round hole defined by the first portion (138; Figure 9; column 6; line 52 - column 7; line 55)* of the aperture (137+138; Figure 9; column 6; lines 52-64), and the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of each of the apertures (accomodating 134; Figure 9) is shaped to mate with the head (flanged portion of piece set in 137; Figure 9) of the first fastener member (piece set in 137; Figure 9; not

numbered) mounted in the aperture (137+138; Figure 9; column 6; lines 52-64), as claimed by claim 31

xix. The component of Claim 10, wherein each T-nut includes a rectangular shaped head and a cylindrical shaped shaft extending axially from a surface of the head and received in a round hole defined by the first portion (138; Figure 9; column 6; line 52 - column 7; line 55) of the aperture (137+138; Figure 9; column 6; lines 52-64), the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of each of the apertures (accomodating 134; Figure 9) is shaped to mate with the head of the T-nut, as claimed by claim 34

xx. The component of Claim 34, wherein the surface of the head of each of the T-nuts is bonded with an elastomer to a surface that at least partially defines the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of the respective aperture (137+138; Figure 9; column 6; lines 52-64), as claimed by claim 35

xxi. The component of Claim 17, wherein each T-nut includes a rectangular shaped head and a cylindrical shaped shaft extending axially from the bearing surface of the head and received in a round hole defined by the first portion (138; Figure 9; column 6; line 52 - column 7; line 55) of the aperture (137+138; Figure 9; column 6; lines 52-64), as claimed by claim 37

xxii. The component of Claim 37, wherein the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of each of the apertures (accomodating 134; Figure 9) is shaped to mate with the head of the T-nut mounted therein, and the bearing surface of each of the T-nuts is bonded with an elastomer to the surface (lower surface) that at least partially defines the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) of the

respective aperture (137+138; Figure 9; column 6; lines 52-64), as claimed by claim 38. Applicant's claim requirement of "the bearing surface of each of the T-nuts *is bonded with an elastomer* to the surface that at least partially defines the second portion" is a product-by-process claim limitation. Because the examiner has provided a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Refer to MPEP 2113.

xxiii. the second portion (137; Figure 9; column 6; line 52 - column 7; line 55) being wider in a transverse direction than the first portion (138; Figure 9; column 6; line 52 - column 7; line 55) - claim 40

Hao teaches equivalent plasma processing electrodes made of graphite and silicon materials (column 3; lines 51-55).

Nishimura teaches a securing means as T-nuts (10; Figure 1) having a T-shape with a first portion (12; Figure 1,4) being wider in transverse direction than a second portion (11; Figure 1,4). Nishimura's T-nuts having a T-shape (10; Figures 1) each include a head (12; Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Katoh's fastener members (piece set in 137; Figure 9; not numbered) with Nishimura's T-nuts having a T-shape (10; Figure 1) and for Katoh to use Hao's electrode materials.

Motivation to replace Katoh's fastener members (piece set in 137; Figure 9; not numbered) with Nishimura's T-nuts having a T-shape (10; Figure 1) is for "stably seating" apparatus parts as

taught by Nishimura (abstract), further, motivation for Katoh to use Hao's electrode materials is for economic fabrication of Katoh's apparatus.

Response to Arguments

3. Applicant's arguments filed April 16, 2008 have been fully considered but they are not persuasive.

4. Applicant states:

"

The Official Action has not provided a rationale as to why one of ordinary skill in the art would be replace the bellows 141 of Katoh with the T-nut of of Nishimura. As such, the Official Action fails to set forth a proper foundation for the combination of Katoh and Nishimura

"

In response, the Examiner's specific rational for the proposed rejections requires nothing of the sort of change detailed by Applicant. The Examiner's proposed change, of record, is that it would … to *replace* Katoh's fastener members (***piece set in 137***; Figure 9; not numbered) with Nishimura's T-nuts having a T-shape (10; Figure 1) and for Katoh to use Hao's electrode materials. As a result, the Examiner is in no way suggesting that "one of ordinary skill in the art would be replace the bellows 141 of Katoh with the T-nut of of Nishimura". The element that the Examiner cites as ***piece set in 137***; Figure 9; not numbered is shown as a flange portion that is inserted into hole 137 of Figure 9.

Applicant states:

"

In the FIG. 11 prior art embodiment, Katoh discloses that head body (e) (or "backing plate") is fixed to porous disk (d) (or "showerhead electrode") (column 1, lines 30-35; FIG. 11). However, Katoh discloses that one problem associated with the FIG. 11 embodiment is that for a transfer arm to transfer wafer W in and out of the process chamber, the distance between the mount stand and porous disk is set at 18 mm (column 1, lines 66 to column 2, line 15). However, at this fixed distance, process gas is not applied uniformly over wafer W (column 2, lines 10-15)

"

And..

"

The FIG. 9 embodiment of Katoh is directed at a plasma processing apparatus with a movable porous disk 117 that can be positioned close to the wafer W (e.g., 10 mm) such that process gas is distributed uniformly over the surface of the wafer (W) (column 7, lines 40-55) and retractable

such that the distance between the wafer (W) and porous disk 117 is sufficient (e.g., 18 mm) for a transfer arm to move the wafer (W) without obstruction (column 8, lines 35-40). Katoh further discloses that "porous disk 117 ... is arranged to be elevated up and down with respect to the head body 116 (column 5, lines 6-7).

“

In response, Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Applicant states:

“

Thus, the combination of the FIG. 11 embodiment (i.e., porous disk (d) fixed to the head body (e)) (column 1, lines 31-33) with the FIG. 9 embodiment (i.e., porous disk elevated up and down with respect to the head body) (column 5, lines 6- 7) would go against the functionality of Katoh's FIG. 9 embodiment, because the porous disk is no longer movable.

”

In response, the Examiner is *not* making a “combination” of Katoh’s Figure 9 and 11 embodiments. In the Examiner’s rejections, the Examiner merely identifies *common* elements to both Figures 9 and 11. For example, the Examiner cites Katoh’s backing plate (116; Figure 6, 9; column 6; line 52 - column 7; line 55). Element 116 is shown in *both* Figures 6 and 9. With respect to Figures 9 and 11 of Katoh, the Examiner merely points out that Katoh details processing apparatus (Figure 6, 9,11; column 1; line 20 - column 2, line 15) with different

features. *No further reference to Figures 9 and 11 is made by the Examiner for any <u>one</u> element.*

See above.

Conclusion

5. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-1442. The examiner can normally be reached on a Monday through Friday schedule from 9am through 5pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272- 1435

/Rudy Zervigon/

Primary Examiner, Art Unit 1792

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/623,540	KENNEDY ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1792	